USDA United States Department of Agriculture

Natural Resources Conservation Service

Mississippi River Basin Healthy Watersheds Initiative MRBI

Conservation Beyond Boundaries



Overview
The Mississippi River is North America's longest river, flowing more than 2,300 miles through America's heartland to the Gulf of Mexico. The Mississippi River basin supplies drinking water, food, employment and recreation for millions of people as well as critical wildlife habitat for diverse species.

This vital river's elevated levels of nutrients and sediment can impair these uses and ultimately impact the health of the Gulf of Mexico. To address agricultural sources of nutrients and sediment to the river, USDA's Natural Resources Conservation Service (NRCS) identified the need for additional conservation in the Mississippi River basin as a top priority.

Priorities
Through the 13-state Mississippi River Basin Healthy Watersheds Initiative (MRBI), initiated in 2009, NRCS and its partners work with farmers, ranchers and forest landowners to implement conservation systems that improve water quality while maintaining or increasing agricultural productivity. To target financial and technical assistance where they are needed most, NRCS and partners identified small priority watersheds that are significant contributors of nutrients and sediment to both local water bodies and the river.

Targeted investments have quadrupled the adoption of critical water quality conservation practices, such as cover crops, tillage and residue management, grassed waterways and nutrient management, in MRBI priority watersheds. This targeted approach increases the effectiveness of conservation systems on a per-acre basis, resulting in greater reductions in nitrogen, phosphorus and sediment leaving farms.

In 2013 and 2014, MRBI partners and farmers also took advantage of NRCS funding to implement edge-of-field monitoring, with more than half of all edge-of-field contracts going to farmers within MRBI priority watersheds. Data collected from monitoring will enable NRCS and its partners to assess the long-term impacts of targeted conservation on water quality.

Funding Sources
Environmental Quality Incentives Program (EQIP)

Agricultural Conservation Easement Program (ACEP)

Results
Since fiscal year 2010, NRCS and partners have planned or implemented conservation systems to address water quality degradation and water quantity on nearly 1 million acres throughout MRBI project areas. With about 5,500 active or completed contracts, NRCS has dedicated approximately $210 million in financial assistance to producers to improve water quality on working agricultural lands. Since 2011, an additional 35,000 acres have been enrolled in 184 easements, with more than $85 million in funding from NRCS.

In 2014, five MRBI projects in Arkansas contributed to improving water quality in a recently delisted segment of the St. Francis River. A conservation investment of more than $14 million has treated more than 81,000 acres through working with nearly 500 landowners in the watershed since 2010. These investments not only contribute to water quality improvements but also improve soil health, increase on-farm water and nutrient retention, and contribute to more efficient irrigation systems and water use — making these farms more sustainable for future generations.


Cover crops help improve water quality and soil health and control soil loss.

Feature Story

Arkansas Conservation Partners Have a Big Impact in the St. Francis River Watershed

The St. Francis River in Missouri and Arkansas has suffered for years from turbidity, or cloudy water caused by runoff of sediment, but thanks to the dedication of government and non-government groups, as well as farmers, the river's water quality is improving.

Two segments of the river in Arkansas were listed in 2006 as an impaired waterway under the Clean Water Act because of poor water quality. But in 2014, following years of focused conservation work, the two segments were removed from the impaired waterway list because water quality had improved.

The St. Francis River begins in southeastern Missouri, flows across Arkansas, and empties into the Mississippi River near Helena, Arkansas. Soils eroding from farm fields have washed into waterways that flow to the river, contributing to water quality problems downstream.

Beginning in 2010, NRCS accelerated efforts with farmers and ranchers, as well as conservation partners, to implement conservation systems in five MRBI projects in the watershed. Since then, the partnership has worked on 479 farms and ranches and more than 81,227 acres to curb soil erosion, improve the quality of water coming off of fields and enhance irrigation efficiency.

Through a targeted approach to implementing voluntary conservation systems, the partners identified areas of high conservation need and tailored practices, such as nutrient management, residue and tillage management, water control structures, and irrigation pipelines, to the uniqueness of small watersheds near the St. Francis River and specific environmental concerns,

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Fiscal Year 2014 Mississippi River Basin Healthy Watersheds Initiative
NRCS Financial Assistance (FA) and Active and Completed Contracts

	Environmental Quality Incentives Program (EQIP)			Agricultural Conservation Easement Program (ACEP)		
State	Contracts	NRCS Investment	Acres	Contracts	NRCS Investment	Acres
Arkansas	455	$23,344,187	98,645	18	$7,286,170	3,964
Illinois	13	$294,786	1,112			
Indiana	5	$306,862	791			
Iowa	202	$6,968,176	34,014			
Kentucky	13	$286,168	5,518			
Louisiana	11	$436,468	3,768	1	$48,177	27
Minnesota	13	$629,480	1,485			
Mississippi	104	$6,980,312	10,552			
Missouri	299	$9,622,243	28,014			
Ohio	23	$1,121,518	1,572			
South Dakota	13	$584,350	7,114			
Tennessee	52	$721,572	7,764	1	$856,300	500
Wisconsin	1	$16,257	90			
Total	**1,204**	**$51,312,379**	**200,439**	**20**	**$8,190,677**	**4,490**

Data source: NRCS Resource Economics, Analysis and Policy Division, January 2015.

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including the turbidity issue and excess nutrients.

MRBI provided Fred Stuckey, of Stuckey Farms Partnership, the financial assistance to help establish a detailed nutrient management plan throughout his 8,000-acre operation. The financial incentives supported development of detailed soil maps and, combined with yield maps, provide even more data to better make nutrient management decisions.

"As a result, we have seen our overall input costs decrease," Stuckey said. "We are also confident that increased management has led to improved water quality benefits not only on the farm but also throughout the watershed."

This work builds on the work of conservation districts in the area, including the Cross County Conservation District and Poinsett County Conservation District. The districts have helped farmers install water control structures that trap sediment and have been leaders in promoting the use of no-till.

"By bringing all of the partners to the table to address the water quality concerns in the St. Francis, we were able to get results," said Mike Sullivan, NRCS State Conservationist in Arkansas. "These MRBI projects have shown that targeted approaches in small watersheds can be very effective to improve water quality and maintain viable agricultural operations."

Since 2010, NRCS has invested more than $14 million in EQIP in these five MRBI project areas.

Wetland Project Improves Water Quality and Protects Endangered Plant

A wetland restoration project in Woodford County, Illinois was funded by the Wetlands Reserve Enhancement Program (WREP) as part of MRBI. NRCS purchased the permanent easement on the land, meaning the benefits will last forever.

This 83-acre wetland restoration project is located adjacent to the Woodford County State Fish and Wildlife Area. Ducks Unlimited biologists and engineers designed the wetland, which will serve a dual purpose: providing habitat for migrating waterfowl and improving water quality in the Illinois River by trapping excess nutrients and sediment.

The wetland is designed to allow floodwater from the river to enter the wetland pool area during flood events. This water is temporarily stored, which helps to reduce downstream flooding and allows for filtering of nutrients.

The rare decurrent false aster (*Boltonia decurrens*) is a federal and state listed threatened species and was discovered at the site. It is a perennial plant found in moist, sandy floodplains and prairie wetlands along the Illinois and Mississippi rivers. The plant is known to exist in only a few Illinois and Missouri counties and nowhere else in the world. The WREP project will provide habitat for this unique plant.

For more information, visit: nrcs.usda.gov/initiatives

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